Air Force Research Laboratory
Mesa Research Site

Air Force Research Laboratory
Human Effectiveness Directorate
Warfighter Training Research Division

The Warfighter Training Research Division (AFRL/HEA) in Mesa, AZ is part of the U.S. Air Force Research Laboratory's Human Effectiveness Directorate within the Air Force Materiel Command (AFMC). AFRL/HEA is the USAF's premier organization for research and development (R&D) in warfighter training techniques and technologies. The division's mission is to "develop, demonstrate, evaluate, and transition training technologies and methods to train warfighters to win." The mission is accomplished through an open, collaborative environment in which government, academia, and industry team with users and customers to develop and exploit new technologies, applications, and environments that will support the warfighter. The collaboration is designed to improve development, validation, and transition of needed training products to users, customers, and solution providers supporting the premise of "training the way we intend to fight" and recognizing that "training is the peacetime manifestation of war."

The integrated nature of war, high tech threats, and military operations other than war are creating a burgeoning training challenge for the USAF and joint forces. Coupled with the need to process extraordinary amounts of data and information, from sensor to Joint Forces Air Component Commander to shooter and back again, warfighters require seamless operational systems and peacetime integrated operations environments that will provide realistic mission training opportunities that currently do not exist. The need for realistic training is complicated by concerns of aging aircraft, training environment encroachment, expanding operations tempo, and cost. Classic individual procedural-based training must be supplemented by full-mission training to adequately prepare warfighters for the challenges of the 21st century. Consequently, the USAF has embarked on revolutionizing training initiatives that advocate affordable, realistic training environments to reduce the dependence on the aircraft as the primary training media. Modeling and simulation are expected to provide on-demand, realistic training opportunities through an integrated operations environment composed of live, virtual, and constructive training capabilities.

As new training systems are fielded, warfighters will be provided with expanded training capabilities, which will allow them to effectively and confidently reallocate training to the most effective venue. Since these systems will better replicate combat and operations other than war, they can be used to support future planning processes permitting the leadership to make better decisions regarding doctrine, strategy, and modernization.

As powerful as these new modeling and simulation tools will be, they can only be effecti-vely used if all aspects of quality training are integrated with system development. AFRL/HEA's robust training R&D program is aimed at producing a research foundation upon which sound training system development principles can be based. Modeling and simulation are a major part of AFRL/HEA's tool kit, but it is AFRL/HEA's skilled scientists, engineers, computer scientists, and pilots who merge opera-tional training systems information with R&D efforts. AFRL/HEA has three Focus Technology Areas:

1. Warfighter Training Effectiveness Behavioral Research
2. Distributed Mission Training Technology Engineering Development
3. Night Vision Device Aircrew Training Research and Development

Approximately 200 government and contractor personnel, on site and at remote locations, support AFRL/HEA's

Air Force Research Laboratory, Williams Gateway Airport, Mesa, AZ

mission and form a diverse, multidisciplinary team of specialists. They include research psychologists, instructor pilots, human factors specialists, electrical and aerospace engineers, physicists, and computer specialists. This unique combination of research and development expertise enables the division to efficiently convert training needs into improved training methodologies and products. The division works closely with other Air Force, Navy, and Army labora-tories, as well as with academia and industry.

Air Force Research Laboratory
Warfighter Training Research Division
6030 South Kent Street, Bldg. 561
Mesa, Arizona 85212-6061
(480) 988-6561
https://www.williams.af.mil